To: Long Range Planning Committee
Blacksburg Planning Commission

From: Daniel McKinney, AICP
Senior Comprehensive Planner

Date: August 11, 2003

Subject: Passages within the Comprehensive Plan Relevant to the Tom's Creek Sewer Amendment **that are not Proposed to Change**.

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Town Council adopted a motion on July 29th, 2003 directing the Planning Commission to initiate a Comprehensive Plan amendment to authorize the construction of the Tom's Creek sewer system. A text amendment is proposed, and is included under a separate heading, to clarify the intended public sewerage system for the Tom's Creek Basin.

This document includes passages contained within the Comprehensive Plan which are relevant directly or indirectly, to the proposed amendment, **but do not require changing**. These passages are included to provide background information and some context on how the plan addresses the provision of wastewater service within the Town.

Specific passages include:

UTILITY SERVICES CHAPTER
***Opportunities* Section**

- Significant plant capacity is available for projected wastewater treatment demand.
- The sanitary sewer system is in compliance with all state and federal regulations, and the wastewater treatment plant exceeds its state and federal requirements with its ammonia nitrogen removal system.

***Challenges* Section**

- Public sewerage service is unavailable to 90 percent of the land area west of the Route 460 Bypass.
- Funding an environmentally sensitive public wastewater service to the Tom's Creek Basin where initial construction, operation, maintenance, and long term replacement costs do not significantly increase rates to the rest of Town.

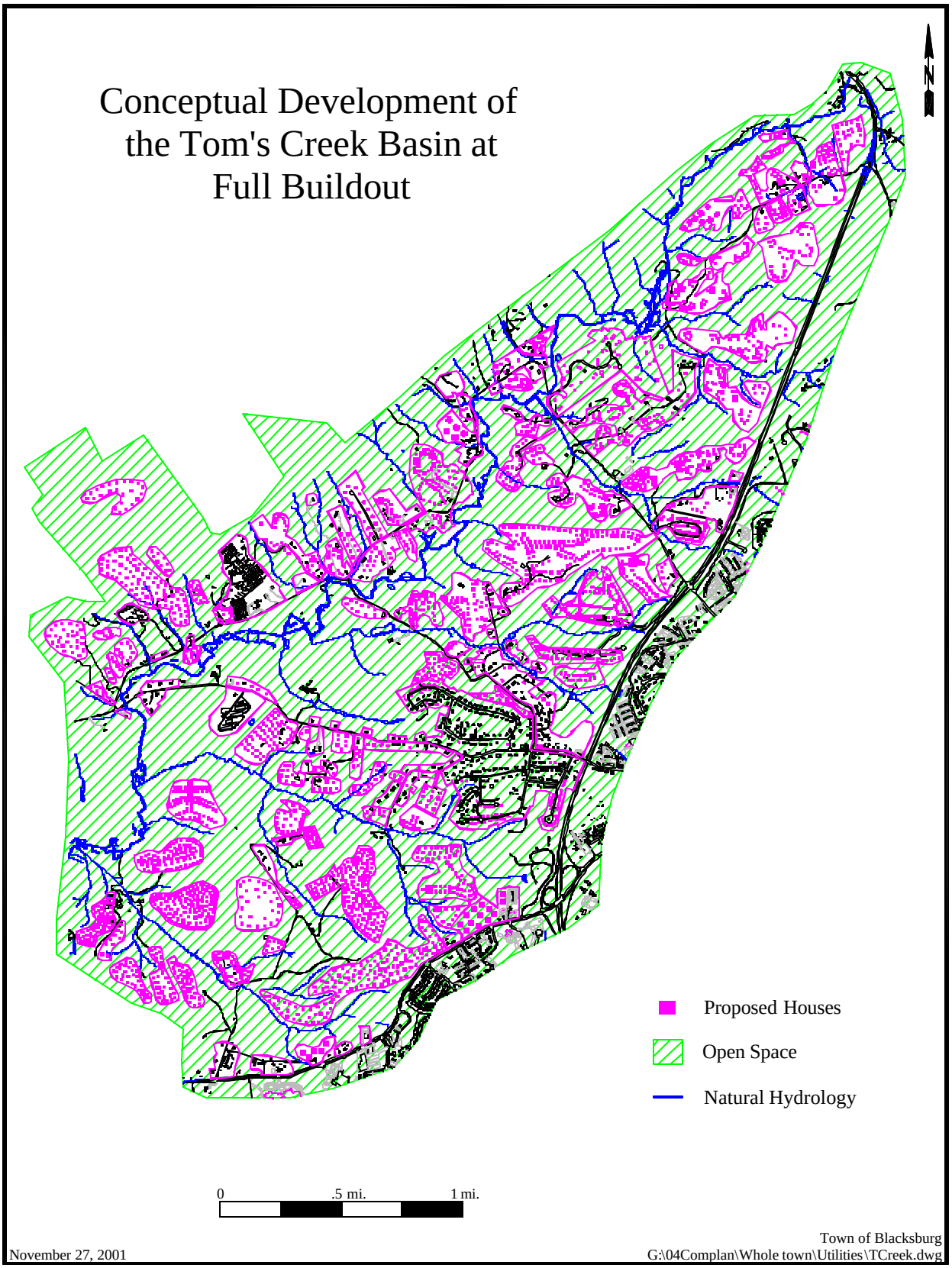

Figure US-11a, Conceptual Development of the Tom's Creek Basin at Full Buildout

General Policies **Section**

- Provide a reliable public wastewater system and cost effective service that is in conformance with all state and federal regulations.
- Participate with local governments in regional infrastructure planning, and to better coordinate extensions across Town boundaries.
- Provide public wastewater service to all areas within the town: to the Tom's Creek area and the 1998 boundary adjusted area utilizing the Capital Improvement Program; to already developed areas of Town on a cost share basis; and to new development areas at the developer's expense.
- Require developers to provide the necessary wastewater provisions as a condition of development approval where system upgrades or pump stations are necessary to achieve public on-site sewerage.
- Require new, unsewered developments to provide a wastewater collection system on-site to enable connection to a public wastewater system once it becomes available.
- Provide a safe, efficient, and easy to maintain sanitary sewer pumping system by reducing reliance on pump stations where possible, replacement of existing underground pump stations with ground level pump stations, and utilizing current technology.
- Maintain sewer revenues at a level that will support operation, maintenance, and capital improvement needs, and maintain a fee structure where the costs of the sewer system infrastructure necessary to serve new development are supported by new development.

Action Strategies,

in general **Section**

- Maintain sewer revenues at a level that will support operation, maintenance, and treatment costs.
- Calculate availability fees, based upon peak usage rate, for the costs of wastewater system capacity that are needed to fund long-term infrastructure improvements.
- Maintain existing pump stations with daily maintenance and inspections.
- Replace broken lines and inadequate lines as identified through regular inspection and maintenance schedules.
- Maintain a sewer washing and root-cutting program in older sections of the sewer system to preclude stoppages.
- Reduce infiltration by manhole waterproofing and lining critical pipes where replacement or repair is not feasible due to depth or traffic interruption.

- Consider the impact that all plans, engineering, and design work have on the Stroubles Creek sewer collection lines that are currently at capacity in many areas.

within 5 years **Section**

- Continue to expand the emergency communications system in cooperation with emergency services to advise Town utility customers of current or impending interruptions in service, and test the emergency communications system periodically and assure Town utility customers are aware of how to obtain this information.

- Assess areas of excessive inflow and infiltration through periodic flow measurement and reduce infiltration and inflow in the town's sanitary sewer system. Encourage a similar policy from the Authority on the Stroubles Creek trunk lines.
- Develop an annual inspection and maintenance program for the existing system based upon the priorities identified through modeling of the system.

- Implement, monitor, and maintain a Septic Tank Effluent Pumping or Gravity System (STEP/STEG) in the Village at Tom's Creek Development as a town pilot program.
- Install automated telemetry in all pump stations for remote monitoring.
- Amend the *Town Code* to allow developers who construct portions of a planned public sewer trunk line to be reimbursed on a pro rata basis by future developers as they connect to the trunk line and modify the Subdivision and Zoning ordinances accordingly.

within 25 years **Section**

- Upgrade all underground pump stations. Replace pump stations with gravity connections where feasible to increase the reliability of the public wastewater system.
- Participate with the sanitation authority to evaluate the region's rate of development and identify a horizon for upgrading the treatment facility.

beyond 25 years **Section**

- Eliminate all inflow and infiltration within the system before peak inflows exceed pipe capacity.
- Install remote flow sensing to target breaks and excessive flow rates for immediate maintenance.

COMMUNITY DESIGN CHAPTER

Scenic Views and the Rural Landscape **Section**

Protect and Enhance Natural Stream Systems. Blacksburg has seen its ponds and streams from early times intertwined with the history of local issues. Water sources were thought to be purely functional but in many instances were considered aesthetically significant and so designated to enhance town and university sites.[2] Significant water sites are the Virginia Tech Duck Pond, Shadow Lake, Hethwood Pond, Stroubles Creek, Tom's Creek, Spout Spring, and College Spring.

NATURAL ENVIRONMENT CHAPTER

Background,

Water Resources **Section**

The town's current floodplain policy is to retain floodplains in their natural state, to mitigate flooding, to protect water quality, and to provide for open space and wetland habitats. In addition, the floodplains and stream valleys form the spine of the town's proposed greenway system, discussed further in the *Greenways* chapter of this document. Where the natural floodplain no longer exists and reestablishing it would be detrimental to the town, the current floodplain policy is to avoid restricting the floodway so as to avoid increasing flood levels, and to require flood proofing of all spaces below flood level. This is the case in the historic downtown and the university area.

Opportunities **Section**

? The Creek Valley Overlay and Flood Hazard Overlay districts protect surface water and riparian resources in the Tom's Creek Basin watershed and other areas of Town, as appropriate.

General Policies **Section**

❑ Preserve and enhance all streams, wetlands, floodplains, and other water features such as Stroubles Creek, Tom's Creek, and the Virginia Tech Duck Pond, and incorporate them into the greenway system.

Action Strategies, in general **Section**

➢ Protect the natural course and flow of streams as a first priority by suggesting alternatives to stream channeling and piping.

➢ Avoid use of septic systems and discourage use of fertilizers, pesticides, herbicides, and other chemicals in areas of sensitive karst terrain where it can increase the likelihood of surface or groundwater contamination (See *Figure NE-9*).

within 5 Years **Section**

➢ Continue to develop an environmental and land use database with mapping to support environmental planning and development, and to monitor impacts on environmental resources. This database should include a model of the regional environmental functions so that the town can work better with surrounding jurisdictions.

- Work with Virginia Tech, the Virginia Natural Heritage program, and other groups to acquire up-to-date information about wildlife habitats within the town's borders, to include endangered and threatened species, and species of special concern.

- Document features of the natural environment such as wildlife and habitats, covered streams, and water quality, in order to incorporate them into a comprehensive natural environment database that can be used in a Geographic Information System (GIS). Use GIS to evaluate and analyze existing resources in the town.

- Protect the natural course and flow of existing streams as a first priority by suggesting alternatives, such as urban Best Management Practices (BMPs), to stream channeling and piping. An example of an urban BMP is the riparian forest buffer system used along Chesapeake Bay tributaries.

- Maintain drainage channels in their natural state and stabilize or un-pipe such channels to protect the drainage systems from development impacts in areas of 15 percent slope or greater.

GOVERNMENT RELATIONS CHAPTER
***Land Use* Section**

Utility extensions are a common catalyst for development and can have a profound impact on an area's future land use. The unique rural and scenic character of the region may be easily compromised without a strong and detailed plan to control and direct growth. A comprehensive water and sewer agreement is needed between the town and county to address these issues. This issue will be most effectively addressed through regional cooperation and a unified policy

SOUTHWEST SECTOR CHAPTER
***Special Considerations* Section**

? Where sanitary sewer service is currently unavailable, developments should either provide for the ultimate connection to sanitary sewer when the system is available or provide a publicly approved decentralized wastewater system.

? The Creek Valley Overlay District is necessary to protect water quality and reduce the potential for contamination.

NORTHWEST SECTOR CHAPTER
***Critical Issues* Section**

Intensive development could negatively impact water quality in Tom's Creek. If measures are not taken to preserve a natural buffer surrounding Tom's Creek, the natural filtration of stormwater runoff will be compromised. Areas of steep slope abutting the floodplain have a high potential for erosion, contamination, and siltation in the creek. Developments that do not take the proper measures to mitigate stormwater runoff will contribute to downstream flooding and negatively impact water quality in Tom's Creek and the New River. The Creek Valley Overlay

District defined in the town's Zoning Ordinance is the primary tool preventing development in these sensitive areas. This overlay district will play a crucial role in how the sector develops and should remain in place.

***Neighborhoods* Section, Tom's Creek**

Tom's Creek residents are also extremely conscientious of the rural character and natural beauty of the Tom's Creek Basin. Stormwater and sediment controls, strict development standards, protection of the ridgelines, preservation of cultural resources, passive development of parks and open space, and implementation of public and private decentralized wastewater systems are primary issues in the area.

***Special Considerations* Section**

? A public wastewater system will be provided for this sector and the larger Tom's Creek Basin.

? The Creek Valley Overlay District is necessary to protect water quality and reduce the potential for contamination.

? Any land disturbing activities, fertilizer and herbicide application, or other possible sources of water contamination should be set back an adequate distance from Tom's Creek and its tributaries with natural vegetative buffers to protect water quality.

? Land and/or scenic easements should be acquired along Tom's Creek to create a large greenway.

***Changes From Existing Land Use Map* Section**

➢ Tom's Creek and its surrounding floodplain are designated as open, and this area is intended to be a major feature of the town greenway system.

NORTH END SECTOR CHAPTER

***Neighborhoods* Section, Northend**

Northend residents, like their Northwest neighbors, are conscientious of the rural character and natural beauty of the Tom's Creek Basin and adjacent areas. Stormwater and sediment controls, strict development standards, protection of ridgelines, development of parks and open space, and implementation of public and private decentralized wastewater systems are primary issues in the neighborhood.

***Special Considerations* Section**

? Where sanitary sewer service is currently unavailable, developments should either provide for the ultimate connection to sanitary sewer when the system is available or provide a publicly approved decentralized wastewater system.

? The Creek Valley Overlay District is necessary to protect water quality and reduce the potential for contamination.

? Any land disturbing activities, fertilizer and herbicide application, or other possible sources of water contamination should be set back an adequate distance from Tom's Creek and its tributaries with natural vegetative buffers to protect water quality.

? Land and/or scenic easements should be acquired along Tom's Creek to create a large greenway.

***Changes From Existing Land Use Map* Section**

- Tom's Creek and its surrounding floodplain are designated as open, and this area is intended to be a major feature of the town greenway system.